

CLAIMS

What is claimed is:

1. An integrated circuit package separator for separating integrated circuit packages from a board, the separator comprising:

a base;

a support over the base;

a pair of pneumatic actuators including first and second lift members laterally spaced from the base and beneath respective ends of a pair of opposing ends of the support, the first and second lift members being configured to vertically displace the support and lift the support off the base by contacting the support, each of the pneumatic actuators including release valves configured to equilibrate a back-pressure of each of the pneumatic actuators to ambient during lifting of the support; and

a cutting mechanism configured to cut the board while the board is over the upper surface of the support to separate the integrated circuit packages from one another.

2. The separator of claim 1, wherein the base comprises a plurality of pins extending upwardly from the base.

3. The separator of claim 2, wherein the support comprises an upper surface and a plurality of holes extending therethrough, the plurality of pins being configured to extend through respective ones of the plurality of holes and upwardly beyond the upper surface of the support.

4. The separator of claim 3, wherein the support and the plurality of pins being configured such that the plurality of pins extend into the plurality of holes in the board when the board is placed over the upper surface of the support.

5. The separator of claim 3, wherein the plurality of pins align with the board such that each of the separated integrated circuit packages is retained to the support by at least one pin.

6. The separator of claim 1, wherein the base includes a substantially planar upper surface, and the first and second lift members each have a substantially planar upper surface, the planar surfaces of the first and second lift members being substantially flush with the planar upper surface of the base.

7. An integrated circuit package separator, comprising:

a base;

a support over the base;

a pair of pneumatic actuators configured to vertically displace the support and lift the support off the base;

each actuator of the pair of pneumatic actuators including release valves configured to equilibrate a back-pressure of each actuator to ambient during lifting of the support such that the actuators lift respective opposing ends of the support substantially simultaneously and in unison; and

a cutting mechanism configured to cut a board, having integrated circuit packages, while the board is over an upper surface of the support to separate the integrated circuit packages from one another.

8. The separator of claim 7, wherein the base comprises a plurality of pins extending upwardly from the base.

9. The separator of claim 8, wherein the support comprises a plurality of holes extending therethrough, the plurality of pins being configured to extend through respective ones of the plurality of holes and upwardly beyond the upper surface of the support.

10. The separator of claim 9, wherein the support and the plurality of pins being configured such that the plurality of pins extend into the plurality of holes in the board when the board is placed over the upper surface of the support.

11. The separator of claim 9, wherein the plurality of pins align with the board such that each of the separated integrated circuit packages is retained to the support by at least one pin.

12. The separator of claim 7, wherein the base and each of the actuators have a substantially planar upper surface, the planar surfaces of the actuators being substantially flush with the planar upper surface of the base.